

Life cycle stages of mites of the genus *Ctenocolletacarus* Fain (Acaria: Acaridae) associated with *Ctenocolletes* bees in Australia

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Abstract

The first known life cycle stages (other than the hypopus) for the genus *Ctenocolletacarus* are described. They comprise the female, egg, larva, and protonymph of *C. longirostris*, and the tritonymph and adults (female and homomorphic and heteromorphic males) of *C. brevirostris*. They were collected from brood cells of their hosts or reared from hypopi.

Additional host records for hypopi of the two species are provided and *Ctenocolletes nigricans* is newly recorded as a host for *C. brevirostris*.

Introduction

Fain (1984) erected the genus *Ctenocolletacarus* for three new species of acarid mites then known only from heteromorphic deutonymphs (hypopi) phoretic on bees of the genus *Ctenocolletes* (Stenotritidae) in Western Australia. Houston (1984) noted that female bees carried the hypopi in specialised pouches on the abdomen and surmised that there is a mutualistic association between bees and mites. More recently, he excavated nests of *Ctenocolletes albomarginatus* Michener and *C. nicholsoni* Cockerell and obtained series of mites from the brood cells. Nests of *C. nicholsoni* yielded gravid females, eggs, larvae and protonymphs. Some of the protonymphs were reared to hypopi which were identified as mostly *C. longirostris* Fain and a few *C. grandior* Fain. Moreover, hypopi of *C. brevirostris* Fain taken from adult bees were reared to tritonymphs and adults of both sexes.

This paper describes these newly discovered life cycle stages and provides a basis for a forthcoming account of the biology of the mites.

Most of the material examined is lodged in the Western Australian Museum with duplicates in the Institut royal des Sciences naturelles de Belgique, Bruxelles, the British Museum (Natural History), London, and the Museum of Zoology, University of Michigan, Ann Arbor.

All dimensions are given in μm .

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